WT19

WT19i, WT19a

White paper
November 2012

Purpose of this document

Sony Mobile product White papers are intended to give an overview of a product and provide details in relevant areas of technology.

Document history

Version		
September 2011	Third released version	Version 3
November 2012	Fourth released version	Version 4

Sony Mobile Developer World

For the latest technical documentation and development tools, go to *www.sonymobile.com/developer.*

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Product overview

Sony Ericsson live with Walkman™

Sony Ericsson live with Walkman™ is a stylish Android™ Walkman™ smartphone with the following key features:

- Compact stylish design with high performance

- Lively Walkman user experience with easy access to related online content

- Latest Android™ smartphone platform version and Android Market™*

Compact, sophisticated and powerful
Enjoy the compact curved design with a stylish high gloss finish as you scroll through your contacts on the scratch resistant 3.2-inch HVGA capacitive touch mineral glass display. Sony Ericsson live with Walkman™ also delivers HD video and 5 megapixel photo capturing. And it's powerful, too. No matter how hard you push it, Sony Ericsson live with Walkman™ stays the course with a powerful 1 GHz processor.

Lively Walkman™ experience with infinite possibilities
Press the designated Walkman™ key for direct access to your favourite tunes. Then enjoy a lively musical experience through xLOUD™ loudness enhancement and stereo speakers. Or if you prefer to sit back and relax, plug in the stereo headset. With the infinite button, you are only one touch away from a world of information about the song you're listening to. Tap it to find music and karaoke videos on YouTube, to search for artist info on Wikipedia, or to look for lyrics on Google.com.

Latest Android platform and Android Market™
Sony Ericsson live with Walkman™ runs on Android 2.3 to ensure you're up to date on the latest smartphone advances. And with the Android Market™ application installed as standard, you can easily download everything from games to everyday tools and entertainment apps. With more than 200,000 apps available,there are thousands of ways to personalise your life.

Applications from the Android Market™ vary widely in size, from less than 100 KB for small utilities to 3-4 MB for full games, music player applications, or other major offerings. The average size, if a representative selection of useful and fun applications is selected, is about 1 MB. This means that, on average, more than 100 applications can be downloaded and used on your device without negatively impacting performance. With the ready availability of the Android Market™ application in the phone, it is also very easy to delete and later reinstall infrequently used applications.

Sony Mobile signature features

Sony Ericsson live with Walkman™ comes with a range of Sony Mobile features as standard. Below is a summary of the key signature features.

Sony Mobile Timescape™

The place to meet your friends

The Timescape™ application manages all your communication with one person in one place. You can effortlessly browse by category your Facebook™*, Twitter™*, email and text communications, as well as view your photos. Now everything is all together and in chronological order, so you don't have to open different applications to see what's going on.

Sony Mobile infinite button

Everything you want from everywhere

Tap the infinite button in the Timescape™ application and smart filter each category of communication by person. For example, when viewing a text message from a friend in Timescape™, tap the infinite button to view a list of all chat messages with that friend.

Sony Mobile Sync

Your mobile life on the web

Synchronise your phone data using Sony Sync so that you always have a backup. While you're at it, match your phone contacts with your Facebook™ contacts. All your synchronised phone data is right at your fingertips and in your account on www.sonymobile.com.

Sony Mobile Local connectivity

More control over your media

Using Sony Mobile Local connectivity, you can exercise more control over how media files get transferred and stored. For example, you can select MTP mode to transfer files if you want to limit the risk of data corruption or select MSC mode if you want to have more control over the data storage.

Sony Mobile Home screen application

The place you call Home

Customise your Home screen with widgets, shortcuts, folders, themes, wallpaper and other items. Where's best for you? Email top right? Music player bottom left? You decide. With four extensions to your Home screen, you've got plenty of space to put things where you want. Just remember to flick left or right to find them.

* This service is not available in all markets.

Facts – Dimensions, weight, performance and networks

Operating system	Google™ Android™ 2.3 (Gingerbread)
Processor	1 GHz Qualcomm 8255
Size	56.5 x 106 x 14.2 mm
Weight	115 grams
Available colours	Black, White
Main screen	
Colours	16,777,216 colour TFT
Resolution	480x320 pixels
Size (diagonal)	3.2 inches
Scratch resistant	Yes – 4H
Input mechanisms	
QWERTY keyboard	Virtual QWERTY 4X10
Text input	Quick text (Zi), On-screen QWERTY keyboard
Touch screen	Capacitive multi-touch (4-point)
Touch gesture	Yes – Multi-touch
Handwriting recognition	Yes – Chinese input only
Gesture control	Yes
Memory	
Internal phone storage	Up to 320 MB user-accessible memory
RAM	512 MB
Expansion slot	microSD™, up to 32 GB
Camera	
Camera resolution	5 megapixel
Digital zoom	16x
Video zoom	16x
Photo flash	Yes – LED
Video recording	Yes – HD 720p
Video call camera (dedicated camera)	Yes – Front facing
Sensors	
Accelerometer	Yes

Ambient light sensor	Yes
Magnetometer	Yes
Proximity sensor	Yes
Networks	
WT19i	UMTS HSPA 900 (Band VIII), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
WT19a	UMTS HSPA 850 (Band V), 1900 (Band II), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
Data transfer speeds	
GSM GPRS	Up to 80 kbps (download). Up to 20 kbps (upload)
GSM EDGE	Up to 237 kbps (download). Up to 59 kbps (upload)
UMTS HSPA cat 6 (upload)	Up to 5.76 Mbps
UMTS HSPA cat 8 (download)	Up to 7.2 Mbps
Talk time (GSM)	Up to 5 hours 30 mins*
Standby time (GSM)	Up to 428 hours*
Talk time (UMTS)	Up to 5 hours 35 mins*
Standby time (UMTS)	Up to 400 hours*
Music listening time	Up to 17 hours 30 mins
Video playback time	Up to 6 hours 18 mins
Battery	1200 mAh

Values are according to GSM Association Battery Life Measurement Technique.

NOTE: *Battery performance may vary depending on network conditions and configurations, and phone usage.*

Categorised feature list

Camera
3D sweep panorama
5 megapixel camera
16x digital zoom
Auto focus
Face detection
Flash/Photo light
Flash/Photo flash
Flash/LED
Front-facing camera (VGA)
Geo tagging
HD video recording (720p)
Image stabiliser
Red-eye reduction
Scene detection
Self-timer
Send to web
Smile detection
Sweep panorama
Touch capture
Touch focus
Video light
Video recording

Music
Album art
Bluetooth™ stereo (A2DP)
Music tones (MP3/AAC)
Music Player
PlayNow™ service**
Stereo speakers
TrackID™ music recognition**
Walkman™ player
xLOUD™

Internet
Bookmarks
Google Play™
Google™ search*
Google Voice™ Search**
Pan & zoom
Web browser (WebKit™)

Communication
Call list
Conference calls
Facebook™ integration**
Google Talk™ video chat**
Polyphonic ringtones
Skype
Xperia™ Timescape™
Speakerphone
Twitter™ application**
Vibrating alert
Video chat ready

Messaging
Conversations
Email
Google Mail™**
Handwriting recognition
Instant messaging
Multimedia messaging (MMS)
Predictive text input
Sound recorder
Text messaging (SMS)
Type & Send widget

Design
Auto rotation
Four-corner Home screen
Keyboard (on-screen, 12-key)
Keyboard (on-screen, QWERTY)
Live wallpaper
Picture wallpaper
Screenshot capturing
Gesture input
Touch screen

Entertainment

3D games
Accelerated Adobe Flash Video
Media browser
Radio (FM radio with RDS)
Sony Entertainment Networks**
Video streaming
Video viewing
YouTube™**

Organiser

Alarm clock
Calculator
Calendar
Document readers
E-Manual
Event
Flight mode
Google Calendar™**
Google Gallery 3D**
Infinite button
Phonebook
Setup guide
Stopwatch***
Timer****
Widget manager

Connectivity

3.5 mm audio jack
aGPS**
Bluetooth™ technology
DLNA Certified™
Google Latitude™**
Google Maps™ for Mobile
Google Maps™ with Street View**
Media Transfer Protocol support
Micro USB support
Modem
Native USB tethering
Synchronisation via Facebook™**
Synchronisation via Google Sync™**
Synchronisation via Sony
Sony Sync
Synchronisation with computer
Synchronisation via Microsoft® Exchange ActiveSync®
Microsoft® Exchange Active-Sync® via Moxier client**
USB mass storage
USB High speed 2.0 support
USB support
USB OTG keyboard and mouse support
Wi-Fi®
Wi-Fi® Hotspot functionallity
Wisepilot™ turn-by-turn navigation**

** *This service is not available in all markets.*

** *This application is not pre-loaded, but it can be installed in Update center.*

*** *The timer widget can be added in Widgets.*

Technologies in detail

NOTE: The information outlined below is general, and levels of compliance to standards and specifications may vary between products and markets. For more information, contact Sony Mobile Developer World or your Sony Mobile contact person where applicable.

Device-to-device communications (local)

Bluetooth™ wireless technology

Bluetooth™ profiles supported	Advanced Audio Distribution Profile V1.2 Audio/Video Remote Control Profile V1.0 Handsfree Profile V1.5 Headset Profile V1.1 Object Push Profile V1.1 Phonebook Access Profile V1.0
Core version and supported core features	Bluetooth™ 2.1 + EDR
Connectable devices	Products supporting at least one of the profiles above

More information:

www.sonymobile.com/developer

www.bluetooth.com

Wi-Fi®

Supported standards	IEEE 802.11b/g/n and Wi-Fi
Connectable devices	Wi-Fi access points
Frequency band	2.4 GHz
Data transfer rate	Up to 72 Mbps
Security	WEP 64 bit WEP 128 bit TKIP CCMP (AES) Open Authentication Shared Authentication EAP-TLS EAP-TTLS/MSCHAPv2 PEAPv0/EAP-MSCHAPv2 PEAPv1/EAP-GTC WPA Personal and WPA2 Personal WPA Enterprise and WPA2 Enterprise
Encryption	WEP, TKIP and AES
Power save	WMM-UAPSD QoS, WMM

DLNA Certified™ (Digital Living Home Alliance)

Supported Device Classes	M-DMS – Mobile Digital Media Server Media Types: Images Summary: The digital media server exposes the media files in your phone to a Wi-Fi® network. The media files can then be accessed from other DLNA Certified™ clients.
	+PU+ Media Types: Images Summary: Plays media in the phone on other device, such as a TV (2 box push). The +PU+ feature is integrated in the Gallery application.
Supported Bearers	Wi-Fi®
DRM Support	The Sony DLNA Certified™ implementation does not support DRM-protected content.

Messaging

MMS (Multimedia Messaging Service)
According to OMA Multimedia Messaging Service v1.0 + SMIL

Email

Bearer type (IP)	GPRS, EGPRS, UMTS
Character sets	BIG5 Traditional Chinese ISO-2022-JP Japanese ISO-8859-1 ISO-8859-2 Eastern Europe ISO-8859-5 Cyrillic ISO-8859-7 Greek ISO-8859-9 Turkish ISO 8859-11 KOI8-R Cyrillic Shift_JIS Japanese USASCII UTF-16 UTF-8 Windows® 874 Windows® 1251 Cyrillic Windows® 1252 Windows® 1254 Turkish Windows® 1258 Vietnamese
Protocols	POP3 and IMAP4
Push email	Microsoft® Exchange ActiveSync® (EAS)
Secure email	SSL/TLS, both port methods (POPS/IMAPS) and STARTTLS
HTML mail	Yes (read only)

More information:

www.sonymobile.com/developer

www.openmobilealliance.org

Positioning – location based services

Supported standards:

- OMA Secure User Plane Location (SUPL) v1.0

- 3GPP™ Control Plane location (incl. Emergency location)

- Qualcomm® GPSOneXtra™

Supported satellite systems:

GPS

GLONASS*

* **NOTE**: GPS and GLONASS are used together to calculate the position. With both systems active, the accuracy and robustness of the positioning is better in most conditions. The usage of GLONASS as an additional system is transparent both to users and developers, and the benefits are automatically available to applications currently using the Satellite Positioning API ("GPS Provider" in Android terminology).

Provisioning (OMA CP)

OMA CP version 1.1

Multimedia (audio, image and video)

Audio Playback	Decoder format	Supported in file format
	Audio decoding MPEG-1/2/2.5, audio layer 3	MP3 (.mp3), 3GPP (.3gp), MP4 (.mp4, .m4a)
	AAC, AAC+, eAAC+	3GPP (.3gp), MP4 (.mp4)
	AMR-NB, AMR-WB	3GPP (.3gp), MP4 (.mp4)
	General MIDI (GM)	SMF (.mid)
	Linear PCM 16bit	WAV (.wav)
	OTA	OTA (.ota)
	Ogg vorbis	Ogg vorbis (.ogg)
Audio Recording	**Encoder format**	**Supported in file format**
	AMR-NB, AMR-WB	3GPP (.3gp), MP4 (.mp4), AMR (.amr)
	AMR-NB, AMR-WB, AAC-LC stereo, sample rate 48 kHz bit rate 128 kbps	3GPP (.3gp), MP4 (.mp4)
Image Playback	**Decoder format**	**Supported in file format**
	1, 4, 8, 16, 24 and 32 bpp and RLE encoded formats	BMP (.bmp)
	Single and multi-frame, bitmap mask support (GIF87a format and GIF89a format)	GIF (.gif)
	Joint Photographic Experts Group	JPEG (.jpg)
	Portable Network Graphics Bitmap mask support	PNG (.png)
	Wireless Bitmap	WBMP (.wbmp)
Image Capture	**Encoder format**	**Supported in file format**
	Joint Photographic Experts Group	JPEG (.jpg)
Video Playback	**Decoder format**	**Supported in file format**
	MPEG-4 Visual Simple Profile, Advanced Simple Profile Level 6	3GPP (.3gp), MP4 (.mp4)
	H.264 High Profile Level 3.1	3GPP (.3gp), MP4 (.mp4)
	H.263 Profile 0, Profile 3 Level 70	3GPP (.3gp)

Video Recording	Encoder format	Supported in file format
	Video H.263 Profile 0, H.264 Baseline Profile Audio: AAC-LC stereo, sample rate 48 kHz bit rate 128 kbps, AMR-NB	3GPP (.3gp), MP4 (.mp4)
Audio/Video Streaming	Streaming transport	RTSP according to 3GPP™ HTTP streaming
DRM	DRM (Digital Rights Management) – features the rights and copy protection of downloaded content	OMA DRM 1.0

Synchronisation (OMA DS, EAS, Google Sync™)

OMA Data Synchronisation protocol versions 1.1.2 and 1.2

OMA Data Formats: vCard 2.1, vCalendar 1.0

Microsoft® Exchange ActiveSync® protocol version 2.5

Microsoft® Exchange ActiveSync® protocol version 12

Google Sync™

Related information:

www.sonymobile.com/developer

Web browser

Browser version	Android 2.3 Browser (Based on WebKit)
Navigation/rendering	Adobe™ Flash™ 10.3* Full page PC rendering Landscape/portrait rendering Pan & Zoom
Search	Internet Search
Browser compliancy	CSS 2.0 CSS 2.1 CSS 3.0 DOM 2.0 DOM 3.0 HTML version 4.0 HTML version 5.0 JavaScript 1.7/ECMA-script 262 3rd edition WebGL 1.0 XHTML Basic version 1.0 XHTML 1.1
Supported Device API	Geo-location API
Protocol compliancy	Gzip HTTP/1.1 OMA Download 1.0 TLS 1.0 and SSL 3.0

* Updates are distributed via Android market™.

Related information:

www.sonymobile.com/developer

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